

NEWS EXPRESS JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
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FILE 'HOME' ENTERED AT 14:25:25 ON 11 AUG 2005

=> file registry

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 14:25:35 ON 11 AUG 2005

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STRUCTURE FILE UPDATES: 10 AUG 2005 HIGHEST RN 859511-21-0

DICTIONARY FILE UPDATES: 10 AUG 2005 HIGHEST RN 859511-21-0

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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS  
for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> S 139-13-9/RN

L1 1 139-13-9/RN

=> S 142-73-4/RN  
L2 1 142-73-4/RN

=> file medline  
COST IN U.S. DOLLARS

| SINCE FILE | TOTAL   |
|------------|---------|
| ENTRY      | SESSION |
| 0.86       | 1.07    |

FULL ESTIMATED COST

FILE 'MEDLINE' ENTERED AT 14:26:36 ON 11 AUG 2005

FILE LAST UPDATED: 9.AUG 2005 (20050809/UP). FILE COVERS 1950 TO DATE.

On December 19, 2004, the 2005 MeSH terms were loaded.

The MEDLINE reload for 2005 is now available. For details enter HELP  
RLOAD at an arrow prompt (=>). See also:

<http://www.nlm.nih.gov/mesh/>  
[http://www.nlm.nih.gov/pubs/techbull/nd04/nd04\\_mesh.html](http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html)

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /GT, and /MN fields incorporate the  
MeSH 2005 vocabulary.

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> s 11  
L3 702 L1

=> s 12  
L4 125 L2

=> s 13 or 14  
L5 821 L3 OR L4

=> s biotin  
18221 BIOTIN  
48 BIOTINS  
L6 18227 BIOTIN  
(BIOTIN OR BIOTINS)

=> s 16 and 15  
L7 5 L6 AND L5

=> s phosphoprotein? or (phosphorylated protein?)  
34750 PHOSPHOPROTEIN?  
36983 PHOSPHORYLATED  
1832366 PROTEIN?  
2167 PHOSPHORYLATED PROTEIN?  
(PHOSPHORYLATED(W) PROTEIN?)  
L8 36108 PHOSPHOPROTEIN? OR (PHOSPHORYLATED PROTEIN?)

=> s 18 and 15  
L9 5 L8 AND L5

=> s 19 and 17  
L10 0 L9 AND L7

=> d ibib 17 1-5

L7 ANSWER 1 OF 5 MEDLINE on STN  
ACCESSION NUMBER: 2005206297 MEDLINE

DOCUMENT NUMBER: PubMed ID: 15839649  
TITLE: Electrogeneration of a poly(pyrrole)-NTA chelator film for a reversible oriented immobilization of histidine-tagged proteins.  
AUTHOR: Haddour Naoufel; Cosnier Serge; Gondran Chantal  
CORPORATE SOURCE: Laboratoire d'Electrochimie Organique et de Photochimie Redox (CNRS UMR 5630), Institut de Chimie Moleculaire de Grenoble FR CNRS 2607, Universite Joseph Fourier, BP 53, 38041 Grenoble Cedex 9, France.  
SOURCE: Journal of the American Chemical Society, (2005 Apr 27) 127 (16) 5752-3.  
Journal code: 7503056. ISSN: 0002-7863.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200507  
ENTRY DATE: Entered STN: 20050421  
Last Updated on STN: 20050726  
Entered Medline: 20050725

L7 ANSWER 2 OF 5 MEDLINE on STN  
ACCESSION NUMBER: 2003464070 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 14526081  
TITLE: Self-assembly of proteins into designed networks.  
AUTHOR: Ringler Philippe; Schulz Georg E  
CORPORATE SOURCE: Institut fur Organische Chemie und Biochemie, Albert-Ludwigs-Universitat Freiburg, Albertstrasse 21, D-79104 Freiburg im Breisgau, Germany.  
SOURCE: Science, (2003 Oct 3) 302 (5642) 106-9.  
Journal code: 0404511. ISSN: 1095-9203.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200310  
ENTRY DATE: Entered STN: 20031004  
Last Updated on STN: 20031025  
Entered Medline: 20031024

L7 ANSWER 3 OF 5 MEDLINE on STN  
ACCESSION NUMBER: 97373802 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 9230285  
TITLE: Iron-induced apoptosis in mouse renal proximal tubules after an injection of a renal carcinogen, iron-nitritotriacetate.  
AUTHOR: Kawabata T; Ma Y; Yamadori I; Okada S  
CORPORATE SOURCE: Department of Pathology, Okayama University Medical School, Shikata-cho, Japan.  
SOURCE: Carcinogenesis, (1997 Jul) 18 (7) 1389-94.  
Journal code: 8008055. ISSN: 0143-3334.  
PUB. COUNTRY: ENGLAND: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199708  
ENTRY DATE: Entered STN: 19970813  
Last Updated on STN: 19970813  
Entered Medline: 19970807

L7 ANSWER 4 OF 5 MEDLINE on STN  
ACCESSION NUMBER: 97317982 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 9174965  
TITLE: Interactions and applications of soluble heterobifunctional affinity chelating polymers in immobilized metal affinity

chromatography.  
 AUTHOR: Ehteshami G; Porath J; Guzman R  
 CORPORATE SOURCE: Department of Chemical and Environmental Engineering,  
 University of Arizona, Tucson 85721, USA.  
 SOURCE: Journal of molecular recognition : JMR, (1996 Sep-Dec) 9  
 (5-6) 733-7.  
 Journal code: 9004580. ISSN: 0952-3499.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199708  
 ENTRY DATE: Entered STN: 19970902  
 Last Updated on STN: 19970902  
 Entered Medline: 19970818

L7 ANSWER 5 OF 5 MEDLINE on STN  
 ACCESSION NUMBER: 96207226 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 8619473  
 TITLE: Single-step synthesis and characterization of biotinylated  
 nitrilotriacetic acid, a unique reagent for the detection  
 of histidine-tagged proteins immobilized on nitrocellulose.  
 AUTHOR: McMahan S A; Burgess R R  
 CORPORATE SOURCE: McArdle Laboratory for Cancer Research, University of  
 Wisconsin-Madison, 53706, USA.  
 CONTRACT NUMBER: CA07175 (NCI)  
 GM28575 (NIGMS)  
 SOURCE: Analytical biochemistry, (1996 Apr 5) 236 (1) 101-6.  
 Journal code: 0370535. ISSN: 0003-2697.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199606  
 ENTRY DATE: Entered STN: 19960620  
 Last Updated on STN: 19970203  
 Entered Medline: 19960613

=> d ibib abs kwic 17 4

L7 ANSWER 4 OF 5 MEDLINE on STN  
 ACCESSION NUMBER: 97317982 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 9174965  
 TITLE: Interactions and applications of soluble heterobifunctional  
 affinity chelating polymers in immobilized metal affinity  
 chromatography.  
 AUTHOR: Ehteshami G; Porath J; Guzman R  
 CORPORATE SOURCE: Department of Chemical and Environmental Engineering,  
 University of Arizona, Tucson 85721, USA.  
 SOURCE: Journal of molecular recognition : JMR, (1996 Sep-Dec) 9  
 (5-6) 733-7.  
 Journal code: 9004580. ISSN: 0952-3499.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199708  
 ENTRY DATE: Entered STN: 19970902  
 Last Updated on STN: 19970902  
 Entered Medline: 19970818

AB The interaction of immobilized metal-chelating adsorbents with a dual  
 heterobifunctional soluble polyethylene glycol (PEG) of the form X-PEG-Y  
 is described, where X represents an affinity ligand and Y a chelating  
 agent. The bifunctional PEG derivative used in this study was

biotin-PEG-iminodiacetic acid (IDA). Affinity and metal binding constants of this conjugate for copper and avidin were found to be in excellent agreement with the binding affinities of the corresponding unconjugated groups IDA and biotin, respectively. The characteristics of the interaction of this bifunctional derivative is described in terms of its adsorption in immobilized metal affinity chromatographic (IMAC) adsorbents. The results show that this derivative can be reversibly and selectively bound to specific IMAC adsorbents under certain experimental conditions. This immobilized scheme resembles a system where an IMAC adsorbent was transformed into an affinity adsorbent as a result of the interactions of both chelating derivatives, one in solution (biotin-PEG-IDA) and the other on the solid matrix (IMAC adsorbent). Apparently the modified IMAC adsorbents, once the affinity chelating ligands are attached, exhibit characteristics similar to those of covalently bound affinity ligands in affinity chromatographic systems.

AB . . . . where X represents an affinity ligand and Y a chelating agent. The bifunctional PEG derivative used in this study was biotin-PEG-iminodiacetic acid (IDA). Affinity and metal binding constants of this conjugate for copper and avidin were found to be in excellent agreement with the binding affinities of the corresponding unconjugated groups IDA and biotin, respectively. The characteristics of the interaction of this bifunctional derivative is described in terms of its adsorption in immobilized metal. . . adsorbent was transformed into an affinity adsorbent as a result of the interactions of both chelating derivatives, one in solution (biotin-PEG-IDA) and the other on the solid matrix (IMAC adsorbent). Apparently the modified IMAC adsorbents, once the affinity chelating ligands are. . .

CT Avidin  
Biotin  
\*Chelating Agents: CH, chemistry  
\*Chromatography, Affinity: MT, methods  
\*Imino Acids: CH, chemistry  
\*Nickel  
\*Polyethylene Glycols: CH, chemistry  
\*Polymers: CH, . . .

RN 1405-69-2 (Avidin); 142-73-4 (iminodiacetic acid); 58-85-5 (Biotin); 7440-02-0 (Nickel)

=> d ibib kwic 17 5

L7 ANSWER 5 OF 5 MEDLINE on STN  
ACCESSION NUMBER: 96207226 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 8619473  
TITLE: Single-step synthesis and characterization of biotinylated nitrilotriacetic acid, a unique reagent for the detection of histidine-tagged proteins immobilized on nitrocellulose.  
AUTHOR: McMahan S A; Burgess R R  
CORPORATE SOURCE: McArdle Laboratory for Cancer Research, University of Wisconsin-Madison, 53706, USA.  
CONTRACT NUMBER: CA07175 (NCI)  
GM28575 (NIGMS)  
SOURCE: Analytical biochemistry, (1996 Apr 5) 236 (1) 101-6.  
Journal code: 0370535. ISSN: 0003-2697.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199606  
ENTRY DATE: Entered STN: 19960620  
Last Updated on STN: 19970203  
Entered Medline: 19960613

AB . . . . Using a one-step reaction, a bifunctional compound was synthesized for detecting histidine-tagged proteins immobilized on

nitrocellulose. This compound has a biotin as one functional group and a nitrilotriacetic acid as the other. The nitrilotriacetic acid is used to chelate a Ni(II). . . at four of its six coordination sites. The remaining two sites are available for binding to a histidine tag. The biotin functional group can then be detected using a streptavidin-horseradish peroxidase conjugate and chemiluminescence. Using this biotinylated nitrilotriacetic acid, it is. . .

CT \*Biotin: AA, analogs & derivatives

\*Blotting, Western: MT, methods

Collodion: CH, chemistry

Hela Cells

\*Histidine: CH, chemistry

Humans

Lysine: AA, analogs. . .

RN 139-13-9 (Nitrilotriacetic Acid); 56-87-1 (Lysine); 576-19-2 (biocytin); 58-85-5 (Biotin); 71-00-1 (Histidine); 7440-02-0 (Nickel); 9004-70-0 (Collodion)

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

3.61

4.68

FILE 'CAPLUS' ENTERED AT 14:29:54 ON 11 AUG 2005

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FILE COVERS 1907 - 11 Aug 2005 VOL 143 ISS 7

FILE LAST UPDATED: 10 Aug 2005 (20050810/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 11

L11 5866 L1

=> s 12

L12 2683 L2

=> s 111 or 112

L13 7763 L11 OR L12

=> s biotin

27720 BIOTIN

107 BIOTINS

L14 27729 BIOTIN

(BIOTIN OR BIOTINS)

=> s 114 and 113

L15 59 L14 AND L13

=> s 114 (S) 113  
L16 1 L14 (S) L13

=> d ibib

L16 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997:335638 CAPLUS  
DOCUMENT NUMBER: 127:113815  
TITLE: Interactions and applications of soluble  
heterobifunctional affinity chelating polymers in  
immobilized metal affinity chromatography  
AUTHOR(S): Ehteshami, Gholam; Porath, Jerker; Guzman, Roberto  
CORPORATE SOURCE: Dep. Chem. and Environmental Eng., Univ. Arizona,  
Tucson, AZ, 85721, USA  
SOURCE: Journal of Molecular Recognition (1996), 9(5/6),  
733-737  
CODEN: JMORE4; ISSN: 0952-3499  
PUBLISHER: Wiley  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s metal (S) chelate  
1586829 METAL  
804547 METALS  
1925374 METAL  
(METAL OR METALS)  
42846 CHELATE  
26684 CHELATES  
56804 CHELATE  
(CHELATE OR CHELATES)  
L17 16297 METAL (S) CHELATE

=> s 117 and biotin  
27720 BIOTIN  
107 BIOTINS  
27729 BIOTIN  
(BIOTIN OR BIOTINS)  
L18 48 L17 AND BIOTIN

=> s biotin?  
L19 34792 BIOTIN?

=> s 119 (S) 117  
L20 15 L19 (S) L17

=> s phosphoprotein? or (phosphorylated protein)  
45761 PHOSPHOPROTEIN?  
49755 PHOSPHORYLATED  
1771752 PROTEIN  
1232953 PROTEINS  
2059138 PROTEIN  
(PROTEIN OR PROTEINS)  
2684 PHOSPHORYLATED PROTEIN  
(PHOSPHORYLATED(W) PROTEIN)  
L21 47200 PHOSPHOPROTEIN? OR (PHOSPHORYLATED PROTEIN)

=> s 121 and 120  
L22 0 L21 AND L20

=> s 120 and phospho  
10189 PHOSPHO

12 PHOSPHOS  
 10201 PHOSPHO  
 (PHOSPHO OR PHOSPHOS)  
 L23 0 L20 AND PHOSPHO  
 => s 120 and (label or detec?)  
 57629 LABEL  
 19525 LABELS  
 69004 LABEL  
 (LABEL OR LABELS)  
 1485448 DETEC?  
 L24 8 L20 AND (LABEL OR DETEC?)  
 => s 124 not py>2002  
 2913018 PY>2002  
 L25 6 L24 NOT PY>2002

=> d ibib 1-3

L25 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:593243 CAPLUS  
 DOCUMENT NUMBER: 135:164456  
 TITLE: Method for carrying out a homogeneous-immunoassay  
 based on agglutination using Fab'-biotin  
 INVENTOR(S): Deger, Arno; Guillot, Francois; Berger, Michael;  
 Schlieper, Dittmar  
 PATENT ASSIGNEE(S): Boehringer Mannheim G.m.b.H., Germany  
 SOURCE: U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 71,593,  
 abandoned.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE   | APPLICATION NO. | DATE        |
|------------------------|------|--|-----------------|-------------|
| US 6274325             | B1   | 20010814   | US 1994-314432  | 19940928    |
| DE 4020204             | A1   | 19920102   | DE 1990-4020204 | 19900625    |
| PRIORITY APPLN. INFO.: |      |  | DE 1990-4020204 | A 19900625  |
|                        |      |  | US 1991-715593  | B2 19910621 |
|                        |      |  | US 1991-718798  | B1 19910621 |
|                        |      |  | US 1993-71593   | B2 19930603 |
| REFERENCE COUNT:       | 14   | THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS<br>RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT |                 |             |

L25 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1999:308592 CAPLUS  
 DOCUMENT NUMBER: 130:308808  
 TITLE: Method for affinity labelling of oligomers or polymers  
 INVENTOR(S): Lopez-Calle, Eloisa; Henco, Karsten  
 PATENT ASSIGNEE(S): EVOTEC BioSystems A.-G., Germany  
 SOURCE: Ger. Offen., 14 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO.  | DATE     |
|------------------------|------|----------|------------------|----------|
| DE 19745001            | A1   | 19990506 | DE 1997-19745001 | 19971011 |
| PRIORITY APPLN. INFO.: |      |          | DE 1997-19745001 | 19971011 |

L25 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN



ACCESSION NUMBER: 1998:324967 CAPLUS  
 DOCUMENT NUMBER: 129:3853  
 TITLE: Receptor binding assay, appropriate recombinant fusion receptor for this assay, vector for its production and reagent kit for implementing the receptor binding assay  
 INVENTOR(S): Loos, Ulrich; Minich, Waldemar B.  
 PATENT ASSIGNEE(S): B.R.A.H.M.S Diagnostica G.m.d.H., Germany; Loos, Ulrich; Minich, Waldemar B.  
 SOURCE: PCT Int. Appl., 43 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO.  | DATE       |
|--|------|----------|------------------|------------|
| WO 9820343   | A2   | 19980514 | WO 1997-EP6121   | 19971105   |
| WO 9820343   | A3   | 19980716 |                  |            |
| W: JP, US  |      |          |                  |            |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE |      |          |                  |            |
| DE 19645729  | C1   | 19980604 | DE 1996-19645729 | 19961106   |
| DE 19728991  | A1   | 19990211 | DE 1997-19728991 | 19970707   |
| EP 938679  | A2   | 19990901 | EP 1997-952757   | 19971105   |
| EP 938679  | B1   | 20020724 |                  |            |
| R: AT, BE, CH, DE, FR, IT, LI  |      |          |                  |            |
| JP 2001505764  | T2   | 20010508 | JP 1998-521059   | 19971105   |
| AT 221204  | E    | 20020815 | AT 1997-952757   | 19971105   |
| PRIORITY APPLN. INFO.:   |      |          | DE 1996-19645729 | A 19961106 |
|  |      |          | DE 1997-19728991 | A 19970707 |
|  |      |          | WO 1997-EP6121   | W 19971105 |

=> d kwic 1

L25 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN  
 AB . . . carry streptavidin or avidin. The invention also concerns the Fab'-biotin which is bound or linked via linkage groups to a label compound which can electrochemiluminesce. The particles having avidin or streptavidin on their surface are magnetic. Use of anti-TSH Fab'-biotin conjugate. . .  
 IT Chelates  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (as labels; homogeneous agglutination immunoassay using Fab'-biotin and avidin or streptavidin agglutinatable particles)  
 IT Luminescence, chemiluminescence (electrochemiluminescence, labels for; homogeneous agglutination immunoassay using Fab'-biotin and avidin or streptavidin agglutinatable particles)  
 IT Ligands  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (multidentate, as labels; homogeneous agglutination immunoassay using Fab'-biotin and avidin or streptavidin agglutinatable particles)  
 IT 110-86-1D, Pyridine, derivs., uses 10199-00-5, Bipyrzine 12678-01-2D, Phenanthroline, derivs. 37275-48-2, Bipyrindyl  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (as label; homogeneous agglutination immunoassay using Fab'-biotin and avidin or streptavidin agglutinatable particles)  
 IT 7439-88-5D, Iridium, metal chelates, uses 7439-98-7D, Molybdenum, metal chelates, uses 7440-04-2D, Osmium, metal chelates, uses 7440-05-3D, Palladium, metal chelates, uses 7440-06-4D, Platinum, metal chelates, uses 7440-15-5D, Rhenium,

metal chelates, uses 7440-16-6D, Rhodium,  
 metal chelates, uses 7440-18-8D, Ruthenium,  
 metal chelates, uses 7440-26-8D, Technetium,  
 metal chelates, uses 7440-33-7D, Tungsten,  
 metal chelates, uses 7440-47-3D, Chromium,  
 metal chelates, uses 7440-50-8D, Copper, metal  
 chelates, uses 7440-74-6D, Indium, metal  
 chelates, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (homogeneous agglutination immunoassay using Fab'-biotin and  
 avidin or streptavidin agglutinatable particles)

=> file his

'HIS' IS NOT A VALID FILE NAME

SESSION CONTINUES IN FILE 'CAPLUS'

Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files  
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 specify a corrected file name or you can enter "IGNORE" to continue  
 accessing the remaining file names entered.

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(FILE 'HOME' ENTERED AT 14:25:25 ON 11 AUG 2005)

FILE 'REGISTRY' ENTERED AT 14:25:35 ON 11 AUG 2005

L1 1 S 139-13-9/RN  
 L2 1 S 142-73-4/RN

FILE 'MEDLINE' ENTERED AT 14:26:36 ON 11 AUG 2005

L3 702 S L1  
 L4 125 S L2  
 L5 821 S L3 OR L4  
 L6 18227 S BIOTIN  
 L7 5 S L6 AND L5  
 L8 36108 S PHOSPHOPROTEIN? OR (PHOSPHORYLATED PROTEIN?)  
 L9 5 S L8 AND L5  
 L10 0 S L9 AND L7

FILE 'CAPLUS' ENTERED AT 14:29:54 ON 11 AUG 2005

L11 5866 S L1  
 L12 2683 S L2  
 L13 7763 S L11 OR L12  
 L14 27729 S BIOTIN  
 L15 59 S L14 AND L13  
 L16 1 S L14 (S) L13  
 L17 16297 S METAL (S) CHELATE  
 L18 48 S L17 AND BIOTIN  
 L19 34792 S BIOTIN?  
 L20 15 S L19 (S) L17  
 L21 47200 S PHOSPHOPROTEIN? OR (PHOSPHORYLATED PROTEIN)  
 L22 0 S L21 AND L20  
 L23 0 S L20 AND PHOSPHO  
 L24 8 S L20 AND (LABEL OR DETEC?)  
 L25 6 S L24 NOT PY>2002

=> file pctfull

|  |            |         |
|--|------------|---------|
| COST IN U.S. DOLLARS                       | SINCE FILE | TOTAL   |
|  | ENTRY      | SESSION |
| FULL ESTIMATED COST                        | 32.10      | 36.78   |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL   |
|  | ENTRY      | SESSION |
| CA SUBSCRIBER PRICE                        | -0.73      | -0.73   |

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FILE LAST UPDATED: 9 AUG 2005 <20050809/UP>  
MOST RECENT UPDATE WEEK: 200531 <200531/EW>  
FILE COVERS 1978 TO DATE

>>> IMAGES ARE AVAILABLE ONLINE AND FOR EMAIL-PRINTS <<<

=> s nta

7276 NTA  
24 NTAS  
L26 7296 NTA  
(NTA OR NTAS)

=> s nitriloacetic acid

921 NITRILOACETIC  
245294 ACID  
164169 ACIDS  
254679 ACID  
(ACID OR ACIDS)  
L27 908 NITRILOACETIC ACID  
(NITRILOACETIC(W)ACID)

=> s (iminodiacetic acid) or IDA

1234 IMINODIACETIC  
245294 ACID  
164169 ACIDS  
254679 ACID  
(ACID OR ACIDS)  
1186 IMINODIACETIC ACID  
(IMINODIACETIC(W)ACID)  
2011 IDA  
111 IDAS  
2095 IDA  
(IDA OR IDAS)  
L28 3068 (IMINODIACETIC ACID) OR IDA

=> s 126 or 127

L29 7802 L26 OR L27

=> s 126 and 127

L30 402 L26 AND L27

=> s (iminodiacetic acid) and IDA

1234 IMINODIACETIC  
245294 ACID  
164169 ACIDS  
254679 ACID  
(ACID OR ACIDS)  
1186 IMINODIACETIC ACID  
(IMINODIACETIC(W)ACID)  
2011 IDA  
111 IDAS  
2095 IDA  
(IDA OR IDAS)  
L31 213 (IMINODIACETIC ACID) AND IDA

=> s 130 or 131

L32 609 L30 OR L31

=> s biotin (S) 132

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOTIN (S) L32'  
30002 BIOTIN

299 BIOTINS  
30023 BIOTIN  
(BIOTIN OR BIOTINS)

L33 406 BIOTIN (S) L32

=> s l31 (S) biotin?  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L31 (S) BIOTIN?'

36647 BIOTIN?  
L34 56 L31 (S) BIOTIN?

=> s l34 not py>2002  
294498 PY>2002  
L35 32 L34 NOT PY>2002

=> d ibib kwic

L35 ANSWER 1 OF 32 PCTFULL COPYRIGHT 2005 Univentio on STN  
ACCESSION NUMBER: 2002094998 PCTFULL ED 20021210 EW 200248  
TITLE (ENGLISH): ANALYZING PHOSPHORYLATED PROTEINS  
TITLE (FRENCH): ANALYSE DE PROTEINES PHOSPHORYLEES  
INVENTOR(S): SINGH, Sharat, 3420 Royal Meadow Lane, San Jose, CA  
95135, US [IN, US];  
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08558, US [US, US]  
PATENT ASSIGNEE(S): ACLARA BIOSCIENCES, INC., 1288 Pear Avenue, Mountain  
View, CA 94043, US [US, US], for all designates States  
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95135, US [IN, US], for US only;  
ZIVIN, Robert, A., 9 Pebble Beach Court, Skillman, NJ  
08558, US [US, US], for US only.  
AGENT: THROWER, Larry, W.\$, Perkins Coie LLP, P.O. Box 2168,  
Menlo Park, CA 94026\$, US  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
DOCUMENT TYPE: Patent  
PATENT INFORMATION:

| NUMBER        | KIND | DATE     |
|---------------|------|----------|
| WO 2002094998 | A2   | 20021128 |

DESIGNATED STATES

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR  
CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD  
MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI  
SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

APPLICATION INFO.: WO 2002-US16100 A 20020521

PRIORITY INFO.: US 2001-60/292,548 20010521

US 2001-60/334,902 20011024

DETD . . . metal ions. Preferably, an IMAC resin comprises a conventional  
chromatographic matrix such as agarose, acrylamide, silica, or the like.  
Metal chelators include  
iminodiacetic acid (IDA), nitriloacetic  
acid (NTA), tetradentate, and the like. Exemplary metal  
ions include Cu, Ni<sup>2+</sup>, Zn<sup>2+</sup>, Co<sup>2+</sup>, Fe(III), Sc(III), Al(III), Lu(HI),

Th(III), . . .

antibody together with a secondary antibody having e-tags attached, a haptenized antibody together with a secondary anti-hapten antibody having e-tags attached, a

biotinylated antibody together with streptavidin having e-tags attached, an antibody derivatized with a functionalized polymer that, in turn, has e-tags attached, or.

during the preparation, aberrant cleavage, etc., or other nonspecific degradation products of the polypeptide binding moiety. As above, a ligand, exemplified by biotin, is attached to the polypeptide-binding region so as to be separated from the e-tag reporter upon cleavage.

by the addition of a positively charged moiety or moieties, such as ammonium groups, basic amino acids, etc. Avidin binds to the biotin attached to the detection probe and its degradation products. Avidin is positively charged, while the cleaved electrophoretic tag is negatively charged..

the e-tag reporter, these molecules will migrate toward the opposite electrode from the released e-tag reporter molecules. For example, one could use biotin and streptavidin, where streptavidin carries a positive charge. In the case of a peptide analyte, one embodiment would have cleavage at . . . pyrazolone of the modified methionine, one could bond to an available lysine. The amino group of the pyrazolone would be substituted with biotin. Cleavage would then be achieved with cyanogen bromide, releasing the e-tag reporter, but the biotin would remain with the peptide and any e-tag moiety that was not released from the binding member. Avidin is then used. . .

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#### Example I

##### e-Tag Reporter Assay for Protein Analysis

##### A. Labeling of aminodextran (MW -500,000) with an e-tag moiety and biotin

Aminodextran was used as a model for demonstrating e-tag reporter release in relation to a high molecular weight molecule, which also serves. . . number of amino groups for 10 mg aminodextran was calculated as  $2 \times 10^{-4}$  moles. For a ratio of 1:4 biotin to e-tag moiety, the number of moles of biotin NHS ester employed was  $1.85 \times 10^{-6}$ , and the number of moles of maleimide NHS ester was  $7.4 \times 10^{-6}$ . 10.9 mg of aminodextran was dissolved in 6 mL of 0.1% PBS buffer. 10 mg of Biotin-x-NHS ester and 23.7 mg of EMCS were dissolved together in 1 mL of DMF and added in 50  $\mu$ L portions. . .

##### B. Reaction of biotin and maleimide labeled aminodextran with the moiety, SAMSA.

e-tag moiety to react with maleimide in the aminodextran molecule. For this purpose 0.3 mg ( $3 \times 10^{-9}$  moles) of biotin and EMCS labeled with aminodextran

were dissolved in 1 Opl of water.

immunoassay for cytokines

1. 10 gI of assay buffer (O.IX PBS, 40 mg/ml BSA) is mixed with I Al (100 nM) of

biotin-labeled anti-human IL-4 monoclonal antibody (purchased from Pierce, catalogue number

M 13) and 1 ]d of cytokine IL-4 (Pierce, catalogue number R-IL.

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Protocol for direct immunoassay for human IgG

1. 10glof assay buffer (O.IX PBS, 40mg/ml BSA) is mixed with 1gl (100nM) of

biotin-labeled anti-human IgG antibody and 1 ]d of human IgG (from Sigma) labeled with an

e-tag moiety ranging in concentration from 0.

=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

|  |            |         |
|--|------------|---------|
| COST IN U.S. DOLLARS                       | SINCE FILE | TOTAL   |
|  | ENTRY      | SESSION |
| FULL ESTIMATED COST                        | 10.01      | 46.79   |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL   |
|  | ENTRY      | SESSION |
| CA SUBSCRIBER PRICE                        | 0.00       | -0.73   |

STN INTERNATIONAL LOGOFF AT 14:37:31 ON 11 AUG 2005

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1642BJF

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

|      |   |   |
|------|---|---|
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| NEWS | 2 | "Ask CAS" for self-help around the clock  |
| NEWS | 3 | FEB 28 PATDPAFULL - New display fields provide for legal status data from INPADOC |
| NEWS | 4 | FEB 28 BABS - Current-awareness alerts (SDIs) available                           |
| NEWS | 5 | MAR 02 GBFULL: New full-text patent database on STN                               |
| NEWS | 6 | MAR 03 REGISTRY/ZREGISTRY - Sequence annotations enhanced                         |
| NEWS | 7 | MAR 03 MEDLINE file segment of TOXCENTER reloaded                                 |
| NEWS | 8 | MAR 22 KOREAPAT now updated monthly; patent information enhanced                  |

NEWS 9 MAR 22 Original IDE display format returns to REGISTRY/ZREGISTRY  
 NEWS 10 MAR 22 PATDPASPC - New patent database available  
 NEWS 11 MAR 22 REGISTRY/ZREGISTRY enhanced with experimental property tags  
 NEWS 12 APR 04 EPFULL enhanced with additional patent information and new fields  
 NEWS 13 APR 04 EMBASE - Database reloaded and enhanced  
 NEWS 14 APR 18 New CAS Information Use Policies available online  
 NEWS 15 APR 25 Patent searching, including current-awareness alerts (SDIs), based on application date in CA/CAPLUS and USPATFULL/USPAT2 may be affected by a change in filing date for U.S. applications.  
 NEWS 16 APR 28 Improved searching of U.S. Patent Classifications for U.S. patent records in CA/CAPLUS  
 NEWS 17 MAY 23 GBFULL enhanced with patent drawing images  
 NEWS 18 MAY 23 REGISTRY has been enhanced with source information from CHEMCATS  
 NEWS 19 JUN 06 The Analysis Edition of STN Express with Discover! (Version 8.0 for Windows) now available  
 NEWS 20 JUN 13 RUSSIAPAT: New full-text patent database on STN  
 NEWS 21 JUN 13 FRFULL enhanced with patent drawing images  
 NEWS 22 JUN 27 MARPAT displays enhanced with expanded G-group definitions and text labels  
 NEWS 23 JUL 01 MEDICONF removed from STN  
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NEWS EXPRESS JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 15:23:56 ON 11 AUG 2005

=> file dissab  
 COST IN U.S. DOLLARS

| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|
| 0.21             | 0.21          |

FULL ESTIMATED COST

FILE 'DISSABS' ENTERED AT 15:24:09 ON 11 AUG 2005

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```
=> s iminodiacetic acid
      56 IMINODIACETIC
      65009 ACID
      23613 ACIDS
      76391 ACID
      (ACID OR ACIDS)
L1      54 IMINODIACETIC ACID
      (IMINODIACETIC(W)ACID)
```

```
=> biotin
BIOTIN IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).
```

```
=> s biotin
      898 BIOTIN
      3 BIOTINS
L2      898 BIOTIN
      (BIOTIN OR BIOTINS)
```

```
=> s l1 and l2
L3      0 L1 AND L2
```

```
=> s IDA
      314 IDA
      16 IDAS
L4      323 IDA
      (IDA OR IDAS)
```

```
=> s l3 and l2
L5      0 L3 AND L2
```

```
=> s l4 and l2
L6      2 L4 AND L2
```

```
=> d ibib 1-2
```

```
L6  ANSWER 1 OF 2  DISSABS COPYRIGHT (C) 2005 ProQuest Information and
      Learning Company; All Rights Reserved on STN
ACCESSION NUMBER: 2000:14508 DISSABS Order Number: AAI9946849
TITLE: Synthesis and study of chelating polymers and their
      application to protein and metal separation from aqueous
      solutions using novel metal affinity interaction techniques
AUTHOR: Garcia-Barron, Javier Enrique [Ph.D.]; Guzman, Roberto Z.
      [adviser]
CORPORATE SOURCE: The University of Arizona (0009)
SOURCE: Dissertation Abstracts International, (1999) Vol. 60, No.
      9B, p. 4739. Order No.: AAI9946849. 192 pages.
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
```

```
L6  ANSWER 2 OF 2  DISSABS COPYRIGHT (C) 2005 ProQuest Information and
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ACCESSION NUMBER: 97:48929 DISSABS Order Number: AAR9720585
TITLE: SYNTHESIS AND CHARACTERIZATION OF BIOAFFINITY INTERACTIVE
      HETEROBIFUNCTIONAL POLYETHYLENE GLYCOLS (PROTEIN
      IMMOBILIZATION)
AUTHOR: EHTESHAMI, GHOLAM REZA [PH.D.]; GUZMAN, ROBERTO [advisor]
```



CORPORATE SOURCE: THE UNIVERSITY OF ARIZONA (0009)  
SOURCE: Dissertation Abstracts International, (1996) Vol. 58, No. 2B, p. 836. Order No.: AAR9720585. 307 pages.  
DOCUMENT TYPE: Dissertation  
FILE SEGMENT: DAI  
LANGUAGE: English  
ENTRY DATE: Entered STN: 19970630  
Last Updated on STN: 19970630

=> d kwic 2

L6 ANSWER 2 OF 2 DISSABS COPYRIGHT (C) 2005 ProQuest Information and Learning Company; All Rights Reserved on STN  
AB . . . and the metal immobilized on the gels. Trypsin and avidin were bound on columns loaded with a PAB-PEG-chelate and a biotin-PEG-chelate respectively. As a typical example, bound trypsin was eluted from the columns with the trypsin inhibitor, benzamidine, acting as a competitive ligand. The bioligands were eluted reversibly from the IMA-adsorbents, using free IDA as a competitive ligand, using low pH buffers or EDTA. PEG derivatives of 5000 daltons, were chemically fixed to non. . .

=>